ECONOMIC INTELLIGENCE COMMITTEE Subcommittee on Petroleum

MILITARY CONSUMPTION OF PETROLEUM PRODUCTS

SINO-SOVIET BLOC 1950-1955

EIC-PSC-WP 1

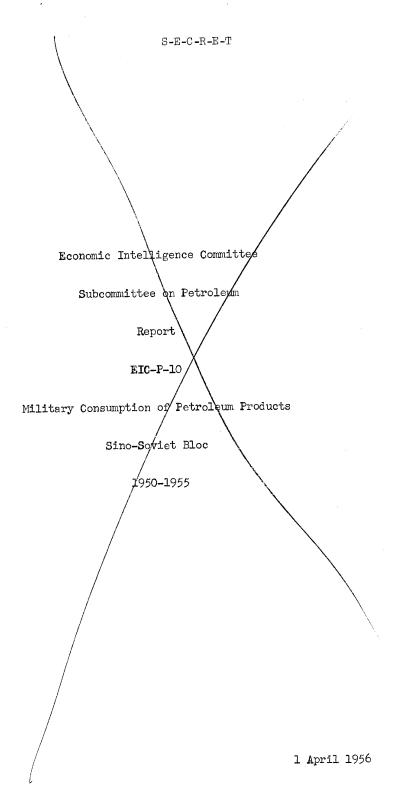
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FOREWORD

This report provides estimates of the consumption of petroleum products by the military and paramilitary Services of the countries of the Sino-Soviet Bloc for the years 1950 through 1955.

The report was prepared under the sponsorship of the Economic Intelligence Committee Subcommittee on Petroleum to meet a designated research deficiency. It is intended that the report serve members of the intelligence community in petroleum supply/demand studies for countries of the Sino-Soviet Bloc.

The limitations of this first joint research effort on the part of the Subcommittee on Petroleum are recognized. However, the report is considered a useful instrument in its present form and can serve as the object of further refinement as better information becomes available.

INTRODUCTION

The estimates included in this report were developed independently by the appropriate intelligence authorities of the US Departments of Army, Navy, and Air Forces. The particular responsibilities for the preparation of consumption estimates for similar consumers in the Bloc follow:

Army - Appendix A. Sino-Soviet Bloc ground forces; militarized security forces (MVD).

Navy - Appendix B. Sino-Soviet Bloc naval forces ashore and afloat.

Air Force - Appendix C. Sino-Soviet Bloc air forces; naval air forces; civil vation; ferrying operations; aircraft engine testing.

Since consumption data, per se, was not available, the estimates represent calculations based on consideration of the probable numbers and types of equipment, estimated use thereof, and the petroleum product consumption per unit time or distance.

THE ESTIMATES

The estimates of consumption of petroleum products by the Army, Navy, and Air Forces of the countries of the Sino-Soviet Bloc for the years 1950 through 1955 are summarized in Table 1. Military consumption by product and by location of forces is summarized in Table 2.

The supporting data and methodology for Tables 1 and 2 are included in the appropriate appendixes.

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										North	North	, , , , , , , , , , , , , , , , , , ,	
nsumer a/ b/	USSR c/	Albania	Bulgaria	Czecho.	E. Germ.	Hungary	Poland	Rumania	China c/	Korea	Vietnam	Total	
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52 Fround Forces	748.9	6.3	35.0	L, L	% %	28.7	53.2	35.7	55.4	22.5	1.2	1036.7	
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ir Forces	2223.4 5.11.3	ຜູ	20°8	5.5° 1.6°)))	16.6 2.6.6	122.9	80.8	397,7	28.0	7,5	5996.7	
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vaval rolles Vir Forces	3,000,3	\	, e.	202	7,7	31,3	77,7	30,00	221,2	36,1	0	3611.0	
Total	6238,1	8,	87.5	1100	39.2	63.1	164.5	100.5	519.9	9.49	7.07	7402.7	
Jround Forces	813.7	6,9	38.9	ħ°24	25,1	32.9	55,1	15°2	78.0	27.3	4.8	1175.3	
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55	7000		200	70077		-							
Forces	813.7	1°.	37.6	52,2	29.5	35.2	57.0	16°5	100.6	32.6	6°9	1218.9	
Naval Forces	2934.8	L.5	۲۰ ۲۰	o (ر د د د) - -	2,00	20°T	7°762	v. v.	0 0	1,690	
Air Forces Total	7752°2	η, 0°6	\$ 2°±3°	105°0 157°2	2°4 5°5	79°5	200°5	113.8	631.8	85°2	6°9	9194.4	
	- Control of the Cont	Charles	-	Carried Section Control			CACCA-CA-CACCAC						

Quantities shown for USSR Ground Forces includes consumption by militarized security forces. Quantities shown for Air Forces includes consumption by Civil Aviation. See Appendices for quantities consumed by national forces outside national boundaries.

က်ီး ကို ပိ

roes a	S-E-E-E-T	Table 2	Estimated Annual Consumption of Petroleum Products Sino-Soviet Bloc Military Forces (Thousand Metric Tons)	Motor Jet Diesel Fuel Gasoline Fuel Oil Lubricants d/	277.4	0 1.0	0. 5.0	3.4 0	0 2. 0	31.11 0 25.3 5.8 3.9	0 52.2 37.9	0 [6,1]	0 0 0	958.3 277.4 867.3 823.6 102.4		552.4 818.8	0 1.0	1.1 3.4 7.6	3.0 3.4 0	0 4.6 0	17.3 0 1.4 0 1.0	4.5 25.7 0	71. 3 10.5 10.5 71.3	Tool 6.00 2.11	0 0	
Consuming Fo USSE Albania Bulgaria Czechoslovakia East Germany Hungary Poland Rumania China North Korea North Kietnam Total USSE Albania Bulgaria Czechoslovakia East Germany Hungary Foland Rumania China Overth Korea North Korea North Korea North Korea			Estimated Annual Co Sino-Sovie (Thou	Aviation Gasoline b/											-			17.07	23.7) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

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		Estimated Annual Consumption of Petroleum Sino-Soviet Bloc Military Forces (Thousand Metric Tons)	al Consumption of Petz Soviet Bloc Military F (Thousand Metric Tons)	Annual Consumption of Petroleum Sino-Soviet Bloc Military Forces (Thousand Metric Tons)	m Products s			
Year	Consuming Forces a/	Aviation Gasoline b/	Motor Gasoline	Jet Fuel c/	Diesel Fuel	Fuel	Lubricants d/	Total
1952	USSR Albania Bulgaria Czechoslovakia East Germany Hungary Poland Rumania China North Korea	1142.0 14.7 21.8 0 11.1 10.3 47.9 0	788. 200. 375. 375. 77. 79. 19. 19.	965.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	837.6 3.6 3.6 13.7 100.8 7.7	1306.5 0 7.6 0 0 10.8 23.8 83.7	100 4.50 14.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1	5141.1 8.2 71.9 76.1 22.2 46.6 1122.9 80.8 397.7 1.22
r V	Total	1268.5	1069.4	1102.8	1001.8	1432.4	121.8	5996.7
1953	USSR Albania Bulgaria Czechoslovakia East Germany Hungary Poland Rumania China North Korea North Vietnam	1216.9 .2 .2 .7.5 .25.6 11.8 .26.5 12.4 .53.2 .1.0 0	796 88 86.00 111 720 80 73.00 73.00 73.00 70 70 70 70 70 70 70 70 70 70 70 70 7	1763.4 0 17.7 h1.1 0 17.7 hh.2 16.3 157.3 33.9 0	871.2 1.0 3.7 1.0 1.5.4 1.0 26.6 1.0 7.0 0	1484-1 0 7.6 0 0 0 10.8 24.3 104.5 0	105.8 2.4 2.5 11.6 130.4 130.4	6238.1 8.5 87.5 1114.4 39.2 63.1 100.5 519.9 64.6 2.1 7402.7

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	Total	7083 8 8 8 6 8 9 6 6 8 9 6 8 9 6 8 9 6 8 9 6 9 6	8392 0 92 2777 92 92 0 115774 113 8 8118 8618 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
	Lubricants d/	11 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	11 22 23 24 24 25 25 25 25 25 25 25 25 25 25 25 25 25
	Fuel	1650.7 0 7.6 0 0 0 10.8 24.3 117.2	1810.6 1719.1 0 7.5 0 0 0 0 114.6 214.8 0 0
m Products s	Diesel Fuel	29.7. 29.7. 29.7. 20.0. 27.0. 20.7. 10.7. 20.5.	1233
Annual Consumption of Petroleum Sino-Soviet Bloc Military Forces (Thousand Metric Tons)	Jet Fuel c/	2271.2 0 17.7 62.8 0 0 . 64.8 23.6 156.1	2661.1 2679.5 0 22.1 73.7 73.7 73.7 73.7 73.8 169.6 39.8
al Consumption of Peta Soviet Bloc Military E (Thousand Metric Tons)	Motor Gasoline	836 700 837 837 837 837 850 850 850 850 850 850 850 850 850 850	836.7 836.7 836.7 83.5 83.3 833.3 103.3 81.0 103.3
Estimated Annual Consumption of Petroleum Sino-Soviet Bloc Military Forces (Thousand Metric Tons)	Aviation Gasoline $b/$	1194.3 194.3 194.1 265.1 126.1 126.6 52.2 4.3	1350.2 1199.9 19.1 12.9 13.2 13.2 55.6 6,0 0
	Consuming Forces a/	USSR Albania Bulgaria Czechoslovakia East Germany Hungary Poland Rumania China North Korea	Total USSR Albania Bulgaria Czechoslovakia East Germany Hungary Poland Rumania China North Korea
	Year	1954	1955

Includes USSR and Communist China forces outside national boundaries. Reciprocating engine aircraft fuels, grades 100, 95, and less than 95, Jet engine aircraft fuels, grades T-l and 100 TS-l.
Lubricating oils, greases, etc.

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<u>S-E-C-R-E-T</u>

Appendix A

GROUND FORCES*

1. Soviet and European Satellites.

A. Assumptions.

- (1) Soviet Army units were at authorized Table of Organization and Equipment (TO/E) strengths in tanks, self-propelled (SP) guns, and other vehicles during 1950-53.
- (2) Petroleum product consumption by Satellite army units is comparable to Soviet rates of consumption, except that units are at less than vehicle strengths authorized in TO/Es.
- (3) Petroleum products are consumed at the same rates by all vehicles of a particular type. For example, the consumption rate for the same truck used for transport is the same in all units.
- (4) All tractors in Soviet and Satellite units burn diesel fuel (although a few may burn gasoline).
- (5) The vehicle strength of the militarized security forces of the MVD was assumed. However, vehicle strength for Border Troops was estimated on the basis of available information.
- (6) All vehicles in the militarized security forces were considered as transport vehicles and were allocated gasoline for 7,200 miles of operation annually, except that 25 percent of the vehicles of the Interior Troops were assumed to be transport vehicles and the balance of the Interior Troops' vehicles were considered as other than transport and were allocated 2,100 miles of operation annually.
- (7) The relationship between petroleum products consumed by the Army forces and the schools supporting such forces is the same in all countries.

B. Methodology.

- (1) Estimates of petroleum product consumption by the Soviet Army have been divided into two periods: 1950-53 and 1954-55. In the first period, the organization of the Soviet forces was static, being based on the reorganization that took place in 1947. It is believed that annual petroleum product consumption during the period did not vary substantially during 1950-53. The second period takes into account the major organizational changes which began in 1954 and which increased substantially the number of wheeled and tracked vehicles. The petroleum product consumption during 1954-55 reflects only divisional changes there having been no evidence of non-divisional reorganization.
- (2) Annual gasoline consumption by the Soviet Army was calculated on the basis of the estimated total number of gasoline burning vehicles

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^{*} The estimates of consumption for Ground Forces represent the best available information as of December 1955.

in divisional and non-divisional units, military schools, and depot installations. In all instances, vehicles were divided into "transport" and "other" vehicles. "Transport" vehicles were allocated gasoline for 7,200 miles annually, and "other" vehicles were allocated 2,100 miles. Such mileages were obtained from current Soviet documents and reports.

(3) The fragmentary information available on Soviet tank and SP gun training indicates that most of the armor assigned to troops is kept in storage. Analysis of all available information led to the belief that about 10 percent of the armor in units was used throughout the year for training and that another 10 percent was added from the tank park during summer training in the field. The remaining 80 percent would therefore be used for short-term maneuvers and for movement to and from railroad stations. The following rates of operation were used:

10 percent, year-round training 400 hours

10 percent, summer training 50 hours

80 percent, maneuver training 25 hours

These rates were applied to the approximate 30,000 tanks and SP guns assigned to Soviet troops. No allowance was made for armor which was in permanent storage and, therefore, not assigned to troops. Fuel consumption for tractors and tank retrievers was calculated on the same basis as for tanks except that mileages were used instead of hours of operation. These vehicles were allotted fuel on the basis of 800 miles for 10 percent used in year-round training; 400 miles for an additional 10 percent used in summer training; and 200 miles for 80 percent used in maneuver training.

(4) Since the beginning of 1954, there has been substantial evidence of organizational changes in many Soviet Army units. The extent of these changes is, as yet, not completely known but the evidence is sufficient to warrant an increase in the annual consumption of petroleum products estimated for the period 1950-53. Based on the general indications noted to date, it is believed that the 1954-55 consumption may be developed by increasing the 1950-53 totals by the following quantities:

Gasoline 30,000 metric tons

Diesel Fuel 30,000 metric tons

Lubricants 4,800 metric tons

(5) Gasoline consumption by the Soviet militarized security forces of the MVD was calculated on the basis of 7,200 miles annually for "transport" vehicles and 2,100 miles for "other" vehicles. Gasoline consumption by the comparable troops in the Satellite countries was calculated on the basis of one truck per 20 men in the such security forces. Each truck was allocated 6,000 miles per year. Consumption for the different years was calculated on the basis of personnel strengths of the security forces of each country for each year. The Soviet militarized security forces were allocated 1,500 tons of diesel fuel annually on the basis of reported artillery and tanks in certain MVD units.

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- (6) Petroleum product consumption for the European Satellite armies was based on estimated vehicle strengths of each army. Vehicle strengths in Satellite units were estimated to be 85 percent of similar Soviet units in 1954. A calculation was made of the consumption in 1954 and percentage factors were applied to reflect the vehicle strength of Satellite armies for other years in order to develop consumption estimates for these years.
- (7) Available intelligence does not permit the development of estimates of petroleum products which may be consumed in space heating, lighting, cleaning, construction work by the military forces for the civil economy, or for other miscellaneous uses.

C. <u>Validity of the estimates</u>.

Since, it was necessary to use several estimated factors and assumptions, the estimates should be considered approximations and subject to considerable margin of error.

D. The estimates.

The consumption estimates for the Soviet and European Satellite ground forces are shown in Tables A-1, A-2, A-3, and A-4.

2. Communist China and the Asiatic Satellites.

A. Assumptions.

(1) Vehicle consumption per day in gallons is assumed as follows:

	Trucks	Self Propelled Guns	Tanks
North Korea	4.2 3.6 (1955)	6.9	8.4
Communist Chinese in Korea	4.2 3.6 (1955)	6.9	ે. 4
Communist Chinese in China	1.25	2.0	2.0 Heavy 1.0 Light
Viet Minh	3.75	, 4	-

Trucks operating in Korea are assumed to travel 1,000 miles per month (850 in 1955); in Communist China, 300; and in Viet Minh, 900. These consumption rates allow for a vehicle deadline factor of about one-third. Consumption rates are higher in Korea and North Viet Nam than in Communist China because of greater consumption during combat operations, and, since the armistice, by greater utilization of vehicles; vehicle operation in Communist China is believed to be sharply restricted.

B. Methodology.

The estimated number of vehicles for each year was based on an analyses of TO/E authorizations, reports of the numbers of vehicles on hand, and imports. The number of vehicles was multiplied by the daily

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consumption factor. The quantities so developed were multiplied by 365 to obtain a yearly figure.

C. Validity of the estimates.

The estimates of the numbers of vehicles used in the computation are fairly reliable, but the assumed consumption factors are subject to a considerable margin of error. However, the consumption factors do not seem inconsistent with available data on U.S. Army peacetime consumption in Korea which indicated an average of six gallons per vehicle per day. Nevertheless, the lack of information on actual consumption and the use of assumed consumption factors suggests a substantial margin of error.

D. The estimates.

The consumption estimates for Communist China and Asiatic Satellite ground forces are shown in Table A-5.

Table A-1

Estimated annual consumption of petroleum products Soviet Army (Metrić tons)

Year	Location of units a/	Motor gasoline	Diesel fuel	Lubricants	Total
1950 h ro ugh					1
1953	USSR	463,019	62,722	34,049	559,790
	Austria	7,034	952	81¢ ,	400,000
	East Germany	93,776	12,703	0,8% 0,	115,272 27,2,211
	Hungary	5,861	762	431 703	, c
	Poland	8,205	21,1	503 703 703	9,920
	Rumania	8,205	21,	3	7,9720
	Tot:a1	586,100	79,395	43,100	708,595
	1330001	•	•		
1954					
hrough	!	76	06.1.30	37 862	611,003
1955	USSR	460, (19	344,00	300,10	
	Austria	7,394	SIC.	4,0	מסאני,
	East Germany	98,576	17,503	240°/	147, (21
	Hungary	6,161	1,094	9).7	(,000
	Poland	8,625	1,532	699	10,826
	Pumania	8,625	1,532	699	10,826
	A DESCRIPTION OF THE PROPERTY				
	Total	616,100	109,395	71,900	773,395
	1		•		

Geographical location of Soviet Army units.

S-E-C-R-E-TTable A-2

Page 1 of 1

Estimated Annual Consumption of Petroleum Products Soviet Army, 1950 through 1953 a/ (Metric Tons)

	Transport	Motor (Gasoline		
Line Divisions	Vehicles	Vehicles	Consumption b/	Consumption c/	Consumption Total
105 Rifle 45 Mecz 20 Tank 5 Cavalry	39.4% 32,445 309 34 % 19,485 433 37.4% 8,560 428 500	77،910 هر 77 61،170، 1366 22،580 هر 22	1799 48,715	62,330 49,175 18,065 0	143,440 97,890 39,465 1,250
Sub-total	60,990	161,960	152,475	129,570	282,045
Non-Divisional Corps Troops Army Troops GHQ Troops Miscellaneous	4,815 18,585 31,500	17,820 51,390 60,160	12,040 46,465 78,750	14,260 41,110 48,130	26,300 87,575 190,180
Sub-total	900وو54	129,370	255,255	103,500	63°,000 304°,055
Total	115,890	291,330	289 , 730	223,070	586,100
Inne Divisions	Medium Tanks and SP Guns	Heavy Tanks and SP Guns	Fuel Tank Retrievers Tractors		
105 Rifle 45 Mecz 20 Tank	7,140 10,215 5,460	0 2,925 1,300	2,940 1,485 700		16,980 34,930 16,600
Sub-total	815و 22	4,225	5,125		68,510
Non-Divisional Corps Troops Army Troops GHQ Troops Sub-total Total	210 500 1,475 2,185 25,000	0 790 400 1,190 5,415	1,080 1,650 1,520 4,250 9,375		1,200 4,640 5,045 10 , 885
		Lubrica	- ·		79 _s 395
Lubricants for	gasoline engine driv	riven vehicles	= a/		35,160 7,940
Total					43,100
GRAND TOTAL					708,595

The consumption for 1954 and 1955 is estimated on the basis of an increase of Gasoline 30,000 tons, Diesel fuel 30,000 tons, Lubricants 4,800 tons applied to the estimates for the years 1950 through 1955. (See paragraph 1, b, 4, Appendix A.) The consumption estimates for 1954 and 1955 are, therefore, gasoline 586,100 plus 30,000 or 616,100; diesel fuel 79,395 plus 30,000 or 109,395; lubricants 43,100 plus

11.

Calculated at 7,200 miles per vehicle per year. b.

Calculated at 2,100 miles per vehicle per year. đ.

Radar, motor boats, and outboard motors. Calculated at 6% of gasoline weight.

Calculated at 10% of diesel fuel weight.

Table A-3

Estimated annual consumption of petroleum products
Soviet Militarized Security Forces of the MVD

	Total	11,190 24,380 2,650 2,120
	n Lubricants	690 1,380 150 120
	Consumption Diesel fuel	1,500
(Metric tons)	Motor gasoline	23,000 23,000 2,500 2,000
	Trucks	3,500 20,000 1,000 800 25,300
	Type of Unit	USSR Border troops Literior troops Convoy troops Signal troops
	Year 1950	through 1955 U

Table A-4

Page 1 of

Estimated annual consumption of petroleum products
European Satellite ground forces
(Metric tons)

180,210 149,425 6,060 31,050 34,670 7,710 18,110 48,310 34,300 Lubricants 8,580 7,980 Diesel fuel 8,205 89 3,230 3,200 810 810 2,460 1,130 10,470 900, 1, 610, 1 2,710 625 625 625 620 1,000 Motor gasoline 133,240 Location of Units Bulgaria Czechoslovakia East Germany Czechoslovakia East Germany Czechoslovakia East Germany Bulgaria Bulgaria Hungary Poland Bumania Hungary Poland Total 1 bania Hungary Poland Total Albania Rumania 1 bania 1952 Tear 1950

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	Table A-4		P.	Page 2 of 2
Estimate	Estimated annual consumption of petroleum products European Satellite ground forces (Metric tons)	etroleum products d forces		
Location of Units	Motor gasoline	Diesel fuel	Lubricants	Total
Albania Bulgaria	6,240	90	315	6,645
Czechoslovakia East Germany	38,430	3,670	2,110 1,005	44,210 12,410 13,010 10,010 10
Hungary	28,570	1,700 3,130	1,515	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Rumania	40,535	1,410	2,145	727, 72, 14, 090, 44
Total	216,885	13,400	11,570	241,855
Albania	0,74,0	100	330	006°9
czechoslovakia	35,340 41,260	1,695 3,865	1,855	38,890
East Germany	22,160	1,785	1,18	41,550 25,135
Poland	29,580 49,190	1,785	1,565	32,930
Rumania	41,620	1,410	2,745 2,145	25,115 45,175
Total	225,620	13,940	11,935	251,495
Albania	6,685	105	340	7,130
bulgaria Czechoslovakia	34,070	1,695	1,790	37,555
East Germany	26,160	4,240 1,980	2,485	52,155 20,51.5
Hungary Poland	31,585	1,980	1,680	35,245
Rumania	42,745	5,470 1,485	2,715 2,310	57,040 46,540
Total	237,530	14,955	12,725	265,210
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	Estimated annual	Table A=5 Estimated annual consumption of petroleum products	troleum products	Pag	Page 1 of 2
	Communist China	Communist China and Asiatic Satellite ground forces (Metric tons)	ite ground forces		
ar	Location of units	Motor gasoline	Diesel fuel	Lubricants	Total
20	Chinese Communist forces in China Chinese Communist forces in Korea North Korea North Vietnam	12,525 6,475 13,000 0	620 0 1,800	655 325 750 0	13,800 6,800 15,550
	Total	32,000	2,420	1,730	36,150
15	Chinese Communist forces in China Chinese Communist forces in Korea North Korea North Vietnam	21,5775 19,425 18,000 760	375 1,725 1,800 0	1,040 1,060 1,060 40	22,990 22,210 20,780 800
	Total	59,760	3,900	3,120	082,999
22	Chinese Communist forces in China Chinese Communist forces in Korea North Korea North Vietnam	16,450 34,550 18,000 1,100	405 1,295 3,400 0	910 1,790 1,080 60	17,765 37,635 22,480 1,160
	Total	70,100	5,100	3,840	070°62

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Table A-5 Estimated annual consumption of petroleum products

Communist China and Asiatic Satellite ground forces (Metric tons)

Year	Location of units	Motor gasoline	Diesel fuel	Lubricants	Total
1953	Chinese Communist forces in China Chinese Communist forces in Korea North Korea North Vietnam	24,725 38,275 18,000 2,300	375 1,725 3,500 0	1,510 1,790 1,090 120	26,610 41,790 22,590 2,420
	Total	83,300	5,600	4,510	93,410
1954	Chinese Communist forces in China Chinese Communist forces in Korea North Korea North Vietnam	24,470 47,530 23,000 4,600	575 1,725 3,000 0	1,700 2,000 1,300 230	26,745 51,255 27,300 4,830
	Total	009°66	5,300	5,230	110,130
1955	Chinese Communist forces in China Chinese Communist forces in Korea North Korea North Vietnam	41,435 49,565 28,000 6,600	1,665 3,135 3,000 0	2,165 2,635 1,600 330	45,265 55,335 32,600 6,930
	Total	125,600	7,800	6,730	140,130

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Appendix B

NAVAL FORCES*

1. Sino-Soviet Bloc Naval Forces.

A. Methodology.

These estimates, taken from ONI 18-1A (15 June 1955) and changes thereto, were developed by the following method:

- (1) Order of Battle was taken from Strength and Disposition of Foreign Navies (ONI-30-S/D) as revised for each year.
- (2) An operational schedule (number of days at sea, in port and in shippards) of each vessel type was developed on the basis of the best available intelligence, filled in and expanded by the use of USN experience.
- (3) Fuel consumption for each vessel type for each day at sea, in port and in yards was estimated on the basis of the most comparable USN type, modified as required.
- (4) The fuel consumed per vessel per year was estimated using data developed in steps 2 and 3 and multiplied by the number of vessels of that type on 1 July of each year to give annual consumption per type.
- (5) Annual consumption of all vessels in each type was totaled to give total consumption for the naval forces afloat.
- (6) Consumption of Naval Forces ashore is estimated on the basis of a per man requirement. The result is considered as all gasoline, although a small, probably insignificant, part of this total would be kerosene and diesel.
- (7) Requirements for lubricants are estimated at 1 percent for fuel oil data, 2 percent for deisel oil data and 5 percent for gasoline data.
- (8) These estimates include units attached to para-military organizations.

B. The estimates.

The consumption estimates for Bloc naval forces are shown in Tables B-1 and B-2.

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^{*} The estimates of consumption for Naval Forces represent the best available information as of November 1955. Naval Air Forces consumption is included with Air Forces in Appendix C.

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Table B-1

Page 1 of

Estimated annual consumption of petroleum products Soviet Bloc naval forces (Metric tons)

1,777,331 25,187 Lubricants ashore 3,925 3,932 3,832 3,832 Fuel oil 902,724 16,622 1,306,460 Diesel fuel 681,239 858 1,645 2,790 22,911 760,093 745,554 858 1,645 12,919 22,911 727,883 .858 1,645 6,796 22,911 Motor gasoline 10,667 72,818 61 230 122 684 692 74,607 ashore 72,818 61, 230 243 243 684 692 72,818 61 74,728 Location of Units Bulgaria East Germany East Germany East Germany Bulgaria Bulgaria USSR Albania 1bania Total Total USSR Albania Rumania Rumania Rumania Poland Poland | Poland Year 1950 1951 1952

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			Tat	Table B-1				Page 2 of 2
	μ	stimated anr	nual consum Soviet Bloc (Metr	Estimated annual consumption of petroleum products Soviet Bloc naval forces (Metric tons)	.eum products			
Year	Location of Units	Motor gas ashore	gasoline afloat	Diesel fuel afloat	Fuel oil afloat	Lubricants ashore	ants afloat	Total
1953	USSR Albania Bulgaria East Germany Poland Rumania	72,818 61 1,37 851 867 692	13,015 531 551 551 0 228 190	778, 498 858 1,645 13,650 22,911	1,484,136 0 7,552 10,804 24,318	3,832 3 23 45 46 36	31,563 1,563 1,563 1,38 2,78 5,88 2,55	2,383,862 1,498 10,346 14,824 35,444 25,491
	Total	75,726	515,411	817,562	1,526,810	3,985	32,867	2,471,465
1954	USSR Albania Bulgaria East Germany Poland Rumania	79,857 61 61 137 851 867 692	15,276 531 531 551 0 228 190	891,960 858 1;645 27;811 23,053	1,650,682 0 7,552 10,804 24,318	11,203 3 23 145 146 36	35,680 1,5 1,38 568 591 255	2,677,658 1,1198 10,316 29,305 35,589 25,191
	Total	82,765	16,776	945,357	1,693,356	4,356	37,277	2,779,887
1955	USSR Albania Bulgaria East Germany Poland Rumania	80,273 61 637 910 1,112	17,337 531 551 551 0 228 190	1,074,673 858 1,645 32,034 23,197	1,719,122 7,552 14,598 24,789	1225 3 23 148 58 42	39,208 15 138 653 632 260	2,934;838 11,1498 10,346 33,645 39,825 26,082
	Total	83,594	18,837	1,132,407	1,766,061	4,399	40,936	3.046.234

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Table B-2
Estimated annual consumption of petroleum products
Communist China and Asiatic Satellite naval forces
(Metric tons)

		Motor gasoline	asoline	Diesel Fuel	The Land	100	4	
Year	Location of Units	ashore	afloat	afloat	afloat	ashore af	ants	Total
1950	China North Korea	728 582	ដូដ	51,545 4,292	37,869 0	825	1,440	91,757
	Total	1,310	251	55,837	37,869	69	1,533	96,869
1951	China North Korea	1,214 728	137	77,799 1,292	48,131 0	79 8£	2,080 93	129,425
	Total .	1,942	251	82,091	48,131	102	2,173	134,690
1952	China North Korea	1,455	703 411	101,979 4,292	83,688 0	ጛር	. 2,963 93	190;833 5,521
	Total	2,426	817	106,271	83,688	%	3,056	196,354
1953	China North Korea	1,699 1,214	760 228	119,678	104,502 0	88 79	3,537	230,265
	Total	2,913	988	123,970	104,502	153	3,636	236,162
1954	China North Korea	1,942 1,214	950 228	137,963 4,292	117,159	102 64	4,048	262,164 5,897
	Total	3,156	1,178	142,255	117,159	166	741,4	268,061
1955	China North Korea	2,185 1,214	1,064	149,758 4,292	136,817	115	4,494	294; 433 5, 897
	Total	3,399	1,292	154,050	136,817	179	4,593	300,330

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Appendix C

AIR FORCES*

1. Sino-Soviet Bloc Air Forces.

A. Assumptions and methodology.

(1) Aircraft fuels and lubricants.

- (a) Aircraft in operating regiments The air order of battle for aircraft of each Satellite country, Soviet forces in each Satellite country, and the USSR, for the years 1950-1955, was established. Since Soviet aircraft strengths are normally stated as TO/E strengths, the percentage of TO/E for each type regiment, was used to determine actual aircraft strength. Flying time per aircraft was based on the estimated pilot time per year for each type regiment. A factor for the ratio of aircraft to pilots was determined in order to get actual aircraft times per year. A handling factor loss of 3.04 percent for aviation fuel, and 3.57 percent for aviation lubricating oil was used. Oil consumption factors used are 1.62 percent of fuel consumed for piston engines, and 1.63 percent of fuel consumed for jet engines.
- (b) Aircraft in training establishments Aircraft assigned to the military training establishment and para-military organizations were determined for each year. Flying hours per aircraft in these training schools, as estimated in AIS 2-18, "The Logistical System of Soviet Military Aviation, USSR," were used in determining the consumption for all training aircraft.
- (c) Aircraft in civil aviation -- Civil aircraft include those assigned Civil Air Fleet, Polar Aviation, the Ministries of Aviation Industry and Internal Affairs; and civil training schools. Monthly flying hours for aircraft in the Civil Air Fleet, as shown in AIS 2-6, "Soviet Bloc Civil Aviation," were used to determine consumption.
- (d) Aircraft testing -- A time factor for engine run-in and aviation industry testing, prior to turning aircraft over to the military, was established. The time factor was based primarily on US factors, and on limited intelligence of Soviet practices.

(2) Diesel fuel and motor gasoline.

(a) Vehicle equipment assigned to aircraft regiments as listed in AIS 2-18, was used to determine motor gas and diesel fuel consumption. Assumptions were based on an estimated number of miles per day that each vehicle would travel. An estimate was made for the petroleum products consumed by the motor vehicles assigned to the training schools.

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^{*} The estimates of consumption for Air Forces represent the best available information as of June 1955.

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(3) Kerosene and fuel oil.

(a) The requirements for heating and lighting are considered to be insignificant in comparison to other petroleum product requirements. No estimates have been made for kerosene and fuel oil used for this purpose.

B. The estimates.

The consumption estimates for Bloc Air Forces including Naval Air Forces are shown in Tables C-1, C-2, and C-3.

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			Table C-1				Page 1 of 12 Pages	12 Pages
	Estimated Annu	al Consumpti	Annual Consumption of Petroleum Products Soviet Air Forces 1950 (Metric Tons)	um Products s)	Soviet Air E	orces		
		Aviation Gasoline	ine Less than	,	Motor	, d	-	- - - -
Location of Units	Grade 100	Grade 95	Grade 95	det Fuel	Gasoline	Dieser Fuel	Lubricants	TOTAL
USSR Soviet Air Force Soviet Naval Aviation	22,805	251,154 76,233	00	100,670	41,467 8,368	6,972 1,407	5,721	428,789 87,549
Training Civil Aviation MAP Aircraft (testing)	23,694 0 15,998	91,545 102,073 1,550	29,122 293,721 699	52,733 0 92,768	ης), 6	,	654. 744. 644.	102; 241 102; 241 111, 164
rotal	62,497	522,555	323,542	246,171	69,629	8,379	16,596	1,249,369
Austria Soviet Air Force	0	11,355	0	0	1,249	210	230	13,044
East Germany Soviet Air Force Soviet Naval Aviation	00	17,214 539	00	29,534	4,371 125	735	101 11	52,255 696
Total	0	17,753	0	29,534	964,4	952	715	52,951
Hungary Soviet Air Force	0	1,078	0	0	249	775	22	1,391
Poland Soviet Air Force Soviet Naval Aviation	00	14, 80h	00	1,688	1,124,250	189 142	100 19	7,905
Total	0	5,762	0	1,688	1,374	231	119	9,174
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			Table C-1	1			Page 2 o	Page 2 of 12 Pages	
	Estimated Ann	ual Consumpti	Annual Consumption of Petroleum Products Soviet Air Forces 1950' (Metric Tons)	um Products 1s)	Soviet Air I	orces			
	Av	Aviation Gasoline	ne						
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total	
Rumania									
Soviet Air Force	0	3,839	0	0	625	105	78	749,4	
China									
Soviet Air Force	0	0	0	0	0	0	0	0	
Total Soviet Units Outside USSR	0	39,787	0	31,222	7,993	1,344	861	81,207	
Total Soviet Air Forces	62,497	562,342	323,542	277,393	77,622	9,723	17,457	1,330,576	

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			Table C-1				Page 3 of 12 Pages	12 Pages
	Estimated Annu	al Consumpti	Annual Consumption of Petroleum Products Soviet Air Force 1951 (Metric Tons)	um Products	Soviet Air B	force		
	Avi	Aviation Gasoline	De					
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Га‡оп
USSR								
Soviet Air Force	89,592	262,256	:	199,658	42,715	7,182	7:477	608,880
Training	23,69 <u>4</u>	87,276 87,486	30 ,12 6	5,907 118,234	8,743 18 ,16 7	1,1,70	1,693	101,089
CIVIL AVIATION MAP Aircraft (testing)	η69°91	102;172 1,702	293,953 1,042	0 0,641	00	00	6,1,5,2 6,1,5,3 6,5,3,4,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5	402,578 402,578 169,922
Total	129,980	536,892	325,121	473,720	69,625	8,652	18,682	1,562,672
Austria			v _e v.				\	
Soviet Air Force	0	13,326	0	0	1,249	210	569	15.051
East Germany								
Soviet Air Force Soviet Naval Aviation	00	36,41	00	68,603	4,371 125	735 21	11. ⁴ 5	88;256 3,10h
Total	0	14,136	0	71,556	964,4	756	914	91,360
Hungary								
Soviet Air Force	O	1,348	• 0	0	642	24	27	1,666

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			Table C-1				Page 4 o	Page 4 of 12 Pages
	Estimated Annu	Annual Consumption of Petroleum Products Soviet Air Forces 1951 (Metric Tons)	n of Petroleum 1951 (Metric Tons)	um Products s)	Soviet Air F	orces		: '
	Avi	Aviation Gasoline	•					
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
Poland		,		,	٠			`
Soviet Air Force Soviet Naval Aviation	00	4,980 1,198	00	4,219 0	1,124,250	189 42	108 24	10,620
Total	0	6,178	0	4,219	1,374	231	132	12,134
Rumania		,	1					`
Soviet Air Force	0	3,722	0	2,953	625	105	80	7,485
China						3	3	
Soviet Air Force	0		0	0	0	0,	0	0
Total Soviet Units Outside USSR	0	38,710	0	78,728	7,993	17,344	428	127,699
Total Soviet Air Forces	129,980	575,602	325, 121	552,1418	77,618	966.6	19,606	1,690,371
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			Table C-1				Page 5 of]	12 Pages
	Estimated Annual Consumption of Petroleum Products Soviet Air Forces 1952 (Metric Tons)	ual Consumptic	on of Petroleum 1952 (Metric Tons)	um Products s)	Soviet Air F	orces		
	Avi	Aviation Gasoline	je 1					
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
USSR	¥	,		,				
Soviet Air Force Soviet Naval Aviation	165,208	310,215	00	319,464	46,088	947 ° 7	10,190	858,914
Training Civil Aviation	23,694	83,393 150,000 150,000	26,557	185,400	15,952	75) ⁶ T	2,500 2,181 2,000	337,477
MAP Aircraft (testing)	16,425	1,672	1,002	150,613		00	9,50, 558	410,977 170,270
Total	205,327	570,607	329,678	760,217	72,282	9,471	21,483	1,969,065
Austria			*	,				
Soviet Air Force	.0	8,405	ි ව :	14,050	1,124	189	196	23,964
East Germany					,			
Soviet Air Force Soviet Naval Aviation	00	13,309	(OO)	104,549 3,544	4,371 125	735	9 9 17	123,424 3,696
Total	0 1	13,309	• · · · · · · · · · · · · · · · · · · ·	108,093	967,4	756	9917	127,120
Hungary		`		,				
Soviet Air Force	0	1,610	o :	14,385	625	105	59	16,784
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			Table C-1				Page 6 of 12 Pages	L2 Pages
	Estimated Annua	al Consumptic	on of Petroleum 1952 (Metric Tons)	um Products (s)	Annual Consumption of Petroleum Products Soviet Air Forces 1952 (Metric Tons)	Seo		
	ΑV	Aviation Gasoline	ne					
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fiel	Lubri cente	
Poland						100	Tank Todillo	
Soviet Air Force Soviet Naval Aviation		4,895 1,437	00	7,595	1,124	189 12	112	13,915 75,6
Total	:	6,332	9	7,595	1,374	231) [15,673
Rumania	÷				•		†	<u>}</u>
Soviet Air Force	0	2,774	0	10,506	625	105	7 4	י, ור
China				,)	2	000 %
Soviet Air Force	0	3,993	0	50,630	1,624	273	173	56,693
Total Soviet Units Outside USSR	0	36,423	0	205,259	9,868	1,659	1,110	25/10,319
Total Soviet Air Forces	205,327	607,030	329,678	965,476	82,150	11,130	22,593	2,223,38h

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	Estimated Annual Consumption of (Met	al Consumpti	on of Petroleur 1953 (Metric Tons)	Petroleum Products Soviet Air Forces 1953 cric Tons)	Soviet Air F	orces		
	Āvi	Aviation Gasoline	ge Ge					
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	π Le‡o#
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Soviet Air Force	183,746	245,283	0	815,962	191,84	8,11,8	10,161	1,311,761
Doviet mayar Aviation Training	0 41,465	56,946 140,021	0 10,995	237;275 291,422	11,616 17,958	1,953	1,583 1,102	309,373
Civil Aviation MAP Aircraft (testing)	156°1	394, 203 345	75 <u>,</u> 391 1,070	0 161,760	80 `	000	7,649 368	177,243 168,494
Total	230,162	836, 798	117,456	1,506,419	78,035	10,101	23,863	2,802,834
ustria								
Soviet Air Force	0	999	0	23,627	6712	126	35	25,224
ast Germany								
Soviet Air Force Soviet Naval Aviation	00	10,894	00	120,078 4,430	4,496 125	756 12	439 8	136,663 4,584
Total	0	10,894	0	124,508	4,621	777	744	742, 141
mgary		,						
Soviet Air Force	0	7,510	0	21,133	1,124	189	190	30,146

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			Table C-1	r d			Page 8 of	8 of 12 Pages
	Estimated Ann	aal Consumpti.	on of Petroleum 1953 (Metric Tons)	Annual Consumption of Petroleum Products Soviet Air Forces 1953 (Metric Tons)	Soviet Air F	orces		
	Av	Aviation Gasoline	ne					
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
Poland		,						
Soviet Air Force Soviet Naval Aviation	00	4,256 1,677	00	ν. 11, 814 Ο	999 250	168 12	107 34	17;344 2,003
Total	0	5,933	0	11,814	1,249	210	대	19,347
Rumania		,						
Soviet Air Force	0	2,982	0	13,143	† 729	105	85	16,939
China								
Soviet Air Force	0	4,412	0	62,760	1,874	315	204	595,69
Total Soviet Units Outside USSR	0	32,397	0	256,985	10,241	1,722	1,123	302,168
Total Soviet Air Forces	230,162	869,195	117,456	1,763,404	88,276	11,823	24,986	3,105,302

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			Table C-1				Page 9 of 12 Pages	1868
	Estimated Annual Consumption of Petroleum Products Soviet Air Forces 1954 (Metric Tons)	al Consumptic	n of Petroleum 1954 (Metric Tons)	um Products S s)	oviet Air F	orces		·
	Av	Aviation Gasoline	пе					
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
USSR						,		
Soviet Air Force Soviet Naval Aviation Training Civil Aviation MAP Aircraft (testing)	224,795 0 59,23 4 0	176,380 36,916 144,522 404,852	0 0 142,803 75,391 1,158	1,254,241 345,705 291,422 0 166,492	51,958 11,990 16,139 0	8;736 2,016 0 0	10,396 1,375 1,194 1,823 7,823	1,726,506 398;002 558;614 488;066 167,942
Total	284,029	762,670	119,352	2,057,860	80,087	10,752	24,380	3,339,130
Austria								•
Soviet Air Force	0	462	0	23,627	47	126	59	25,360
East Germany		`		`	,			`
Soviet Air Force Soviet Naval Aviation	00	بلبلا _{، د} دد 0	, 0 0	81;219 4,430	3,622	609	379 8	97; 273 4,584
Total	0	गगः	0	85,649	3,747	630	387	101,857
Hungary								
Soviet Air Force	0	0	0	31,744	449	126	28	32,677
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Table C-1	Page 10 of 12 Pages
Estimated Annual Consumption of Petroleum Products Soviet Air Forces	

			Table C-1	-			Page 10 of 12 Pages	L2 Pages
	Estimated Annual Consumption of Petroleum Products Soviet Air Forces 1954 (Metric Tons)	al Consumpti	on of Petroleum 1954 (Metric Tons)	eum Products ns)	Soviet Air F	orces		
	Avi	Aviation Gasoline	ne Te					•
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
Poland		٠		,				,
Soviet Air Force Soviet Naval Aviation	0 0	3,354	9 9	23,728	1,124,250	189 42	Ηĸ	28,506
Total	0	5,031	6	23,728	1,374	231	गिरा	30,508
Rumania	7	,		,				,
Soviet Air Force	:	3,398	0	13,143	625	105	93	17,364
China		,		`				
Soviet Air Force	0	1,607	0	35,441	1,374	231	218	178,44
Total Soviet Units Outside USSR	0	28,279	0	213,332	8,618	2,149	959	252,637
Total Soviet Air Forces	284,029	790,949	119,352	2,271,192	88,705	12,201	25,339	3,591,767

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			Table C-1				Page 11 of 12 Pages	2 Pages
	Estimated Annu	al Consumptio	on of Petroleur 1955 (Metric Tons)	Annual Consumption of Petroleum Products Soviet Air Forces 1955 (Metric Tons)	oviet Air F	orces		
	Avi	Aviation Gasoline	Je					•
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
USSR	,	,		,	,			*
Soviet Air Force Soviet Naval Aviation	200,361	151,379	(1	1,479,897	50;335 12;864	8,463 2,163	9,812	1,900,247
Training Civil Aviation WAP Aimeneft (testing)	77,005 8,872	158,100 434,279	18,828 79,358 1,006	291,422	15,534 0 0	000	5,103 8,533 387	595, 992 544, 359 227, 364
Total	286,238	768,220	129,192	2,448,137	78,733	10,626	25,127	3,746,273
Austria			Di vi	,				
Soviet Air Force	•	199	- O	23,627	447	126	59	25,360
East Germany				•	,			i
Soviet Air Force Soviet Naval Aviation	00	9,749 0		132,429 4,578	μ,372 125	735 21	439 8	147,724 4,732
Total	0 :	9,749	0	137,007	16,497	756	744	152,456
Hungary				,				x.
Soviet Air Force	0	0	0	31,744	47	126	28	32,677

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Page 12 of 12 Pages		Diesel Fuel Lubricants Total	189 113 29;874 12 34 2,003 231 147 31,877	63 40 15,078	0 0 0 0 0 0.302.302.302.302.302.302.303,721	
	Soviet Air Forces	Motor Gasoline Diesel	1,124 18 250 1	375	0 0 7,744 86,477 11,928	
S-E-C-R-E-T Table C-1	n of Petroleum Products 1955 (Metric tons)	e Less than Grade 95 Jet Fuel	0 25,094 0 0 0	0 13,881	0 0 0 231,353 0 2,679,490	
	Estimated Annual Consumption of Petroleum Products Soviet Air Forces 1955 (Metric tons)	Aviation Gasoline Grade 100 Grade 95	0 3,354 0 1,677 0 5,031	0 719	0 0 16,298 286,238 784,518	e e
	B61	Location of Units	Poland Soviet Air Force Soviet Naval Aviation Total	Rumania Soviet Air Force	China Soviet Air Force Total Soviet Units Outside USSR Total Soviet Air Forces	

		ESTIMATED ANNUAL EUROPEAN	ED ANNUAL CONSUMPTION OF EUROPEAN SATELLITE AIR F		F PETROLEUM PRODUCTS FORCES = 1950	Page	ge 1 of 6 Pages	
	Avie	Aviation Gasoline					Met	Metric Tons
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Tota1
Albania Air Force	0	0	0	0	0	0	0	0
Bulgaria Air Force Training Civil Aviation Total	0000	2393 1873 571 4837	426 1334 1760	000	375 345 0 720	63	49 37 31 117	2880 2681 1936 7497
Czechoslovakia Air Force Training Civil Aviation MAP Airoraft (testing) Total	00000	6627 2095 2920 0 11642	0 1370 6814 0 8184	0000	999 502 0 0 1501	168 0 0 0 0 168	133 56 157 0 346	7927 4023 9891 0
East Germany Air Force	. 0	0	0	0	0	0	0	0
Hungary Air Force Training Civil Aviation Total	0000	750 1098 635 2483	0 1343 1481 2824	0000	250 366 0 616	24 0 0 24 24	15 40 34 89	1057 2847 2150 6054
Poland Air Force Naval Aviation Training Civil Aviation WAP Aircraft (testing) Total	00000	6065 0 2346 1270 0	2107 2963 2963 0	00000	1124 0 670 0 0	189 0 0 0 0 0 189	122 0 72 69 0 263	7500 0 5195 4302 0 16997
Rumania Air Force Training Çivil Aviation Total	0000	6540 1397 1397 9334	0 702 3259 3961	0000	874 273 0 1147	147 0 0 0	132 33 76 241	7693 2405 4732 14830
Total European Satellites	0	37977	21799	0 م	5778	609	1056	67219

9 9 9 9				° C\$				
		ESTIMATED ANNUAL EUROPEAN		CONSUMPTION OF PETROLEUM FRODUCTS SATELLITE AIR FORCES - 1951	1951	E.	Page 2 of 6 Pages	
	Avie	Aviation Gasoline	ine				Ne.	Metric Tons d
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
Albania Air Force	O °	0	0	0	0	0	0	ed Fo
Bulgaria Air Force	00	12151	0 2	1055	1499	252	247	or Rel
fraining Civil Aviation Total	000	699 15661	453 1630 2083	1055	392. 0 1891	252	55 37 337	ease 5366 2366 21279
Czechoslovakia Air Force	0	10530		2953	1499	252	218	15452 15452
Training Civil Aviation	0 0	1987	1416	00	480	00	55	3938 3938 3939
MAP Aircraft (testing)	0	0	0	0 0	o 0	0	0	
Tota1	0	15437	8230	2953	1979	252	430	. 18262 O
East Germany Air Force	0		0	0	0	0	0,	O O
Hungary Air Force	0	5250	. 0	0	874	147	107	
Training	0 (1287	1377	0 0	400	00	43	3107
Total		7172	2858	0	1274	147	184	110 92911
Poland Air Force	0 (12176	00	4325	1998	336	253	00A00
Mayal Aylatlon Training	> 0	283	2445	၁င	130 788	7.7	% %	456 95.5 95.5 95.5 95.5 95.5 95.5 95.5 95
Givil Aviation	000	1270	2963		900	000	99	
mar arierate (testing) Total	00	16556	5408	4325	2916	357	413	28875
Rumania Air Force	0	8306	0	1582	1124	189	170	01-1
Training Civil Aviation	00	1397 1397	722 3259	00	275 0	00	34 76	2428 4732
Total	0	11100	3981	1582	1399	189	280	18531
Total European Satellites	0	65926	22560	9915	9459	1197	1644	110701
				36.			w.l	S-E-C-R-E-T

Approved For Release 2000/08/29:	CIA-RDP79S01100A000200160001-1
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		ESTIMATED ANNUAL		S-E-C-R-E-T Table C-2 CONSUMPTION OF PETROI	PETROLEUM PRO DUCTS	Pag	Page 3 of 6 Pages	
	!	BUR	EUROPEAN SATELLIT		- 1952			
	Avi	Aviation Gasoline					Met	Metric Tons
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
Albania Air Force	0	180	0	0	0	0	4	184
Bulgaria Air Force	0	8570	a	8860	2123	357	189	66008
Training	0	2811	621	0	419	0	22	3906
Givil Aviation Potal	000	825 12206	1925	0	9542	257	45	2795
1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	>	14400	0#67	0000	9 1 000) GC	203	00000
Czechoslovakia Air Force	00	8629	0	10126	1499	252	261	20698
iraling) (2832	2.140	၁ (409	0 (82	5526
GIVIL AVIATION MAP Aircraft (testing)	- 0	2412	6299	0 491	00	00	131 3	8172
Total	0	14077	7769	10617	1908	252	408	35031
East Germany Air Force	0	0	0	0	0	0	O.	0
Hungary		!						
Air Force	0 (5643	0	5063	666	168	124	11997
Training Cirti Aristica	0	7.7.36 3.7.7	1554	o (302	0 0	4. 5	3706
TOTOTAL TIVE		000	TOAT	0		0 8 8	5	OCTY
	5	#/O0	ဇဂဂ္ဂဇ	ဇရဂဇ	TOST	897	\$ T¢	1/855
Poland Air Force	c	7667	C	10128	1998	222	177	00206
Neval Aviation	0	359	0	0	125	21		512
Training	0	5224	3061	0	828	0	134	9248
iatio	0	1270	2963	0	0	0	69	4302
MAP Airoraft (testing)	0	0	0	70	0	0	0	70
	0	14520	6024	10196	2952	357	383	34432
Runania		1.						
Air Force	0 (4640	0 0	7595	1499	252	106	14092
fraining Civil Aviation	00	3174	70 11	00	9.42 0	00	4 C	3226
Total	0	9211	1102	7595	1748	252	199	20102
Total European Satellites	0	56046	22698	42331	10451	1386	1495	134407
								:

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Table C-2

ESTIMATED ANNUAL CONSUMPTION OF PETROLEUM PRODUCTS

EUROPEAN SATELLITE AIR FORCES - 1953

	Avîe	Aviation Gasoline	-ue				;	
Location of Thits	000000		I ⊶				Met	Metric Tons
Alberte	arade TOO	urade 95	Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
Air Force	0	210	. ·	c	100	Č		
Bulgaria				•	9	12	4	360
Air Force	0	11175	c.	19991	000		•	
Training	0	3278	900	1 0	7338	336	257	31487
Givil Aviation	0	9126	900	o (46.2	0	2	4627
Total		0000		٥	0	0	34	2150
	>	SOCOT	985	17721	2292	336	361	7826A
Czechoslovakia		1					4	# 0300
Air Force	C	0260	c	,				
Training	o c	9700	0 :00	31011	2248	378	254	43659
Civil Aviation	o c	# CO	1962	0	333	. 0	108	2002
Mary discount of the contract of))	804 I	0	0	0	c	רצו	0607
Gurage (resting)	>	1154	O	10109	· C	.	101	27.18
rotal	0	22.657	2961	41120	2581	248	8	11299
East Germany					1	2	620	70226
Air Force	0	1258	C	c	194	ć	,	
Ė			•	>	TCO	12	25	1429
nungary							-	
Alr Force	0	5784	0	17721	1124	189	פאר	
Trining	0	2335	1554	0	187	9 (D (4	20.4%
Clvll Aviation	0	2116	0	0	- C	> C	လ လ	4139
Total	0	10235	1554	17721	ווצו		94	2150
Poland			!	1	1701	887	246	31256
Air Force	0	13257	c	409%8	6	1		
Naval Aviation	0	0	o C	2052	37.00	299	341	57775
Training	0	5814	1162	200	145	21	ည	3104
Civil Aviation	0	4233	770	> ·	24.6	0	147	97.14
MAP Aircraft (testing)	· C	9	> c	0 0	0	0	69	4302
Total		02204	0	285	0	0	es.	984
	>	#Occ. 7	3277	44173	4039	588	564	75879
TI MICHIEL TO	•							
Projector	0 (6266	0	16244	1499	25.2	157	0.17.0
STITUTE OF THE STATE OF THE STA	5 7 (1397	1589	0	179	i C	- 07	07442
HOTORY TARA	0	3174	0	0	C	» c	O 4	0770
Tanor	0	10837	1589	16244	1678	252	56 257	32.26
Total Buropean Satellites	c	05030	0000	000	1	}	3	9 0000
	:	0.000	TOSOO	136979	12151	1785	1986	248271

248271

STIMATED ANNUAL CONSUMPTION OF PETROLEUM PRODUCTS

ENGINEAR SATELLITE AIR FORCES - 1954

	Avi	Aviation Gasoline			i.		Met	Metric Tons
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Inhaicente	⊕ 10+0 }
Albania		ī					CATTON TON	1000
Air Force	0	210	0	0	0	21	4	235
Bulgaria	,						•	V **
Alr Force	0	10845	0	17721	2248	378	251	31443
Traing	0	5258	1136	0	448	0	104	6946
Civil Aviation	0	1905	0	0	0	0	31	1936
Total	0	18008	1136	17721	2696	378	386	40325
Czechoslovakia)
Air Force	0	9328	0	48731	2498	420	277	61254
Training	0	4392	34.75	0	393	0	128	4 8 8 8
Civil Aviation	0	8041	0	0	0	o C	ר א ר א	97.0
MAP Aircraft (testing)	0	875	0	14086	0) C	425	24000
Total	0	22636	3475	62817	2891	420	573	92812
East Germany						: -		i i
Air Force	0	1887	0	0	375	63	38	2363
71 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								
Mangar y	c							
ALL FOLGE) (6099	0	29534	1499	252	187	38081
raing Gari Arioti	> (1897	1754	0	183	0	59	3893
HOTO BIATATA	0	9112	0	0	0	0	34	2150
Total	0	10622	1754	29534	1682	252	280	44124
Poland								
Air Force	0	12144	0	55834	3622	609	347	72556
Mayal Aviation	0	0	0	2953	125	21	വ	3104
Traing	0	7021	3711	1054	589	0	177	12552
Civil Aviation	0	4233	0	0	0	0	69	4302
MAP Aircraft (testing)	0	0	0	4984	0	0	æ	4992
Total	0	23398	3711	64825	4336	630	909	97506
Rumania						,		
Alr Force	0	6829	0	23627	1624	2.73	176	22.20
Training	0	1397	1403	0	140	0	2.4	2000
Civil Aviation	0	3174	0	0	0	0	523	3226
Tota1	0	11200	1403	23627	1764	273	273	38540
Total European Satellites	0	87961	11479	198524	13744	2037	2160	315905
								1

Table C-2
ESTIMATED ANNUAL CONSUMPTION OF PETROLEUM PRODUCTS
RIROPKAN SATELITY ATP ROPORS 1965

					The second secon			
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Bas	Tuhainanta	
Albania .						TODE TOOGT	SOTTEST TOP	FRIOT
Air Force	0	210	0	0	125	21	4	360
Bulgaria							Ī)
Air Force	0	11124	Φ	22151	2248	378	285	22122
Training	0	4608	1436	0	302) •	3	90700
Civil-fristion	0	1905	0	0	3	> C	66	0440
Total	0	17637	1436	22151	2550	378	395	74547
Czechoslovakia						<u>,</u>	3	12027
Air Force	c	0620	c	50	i i	•	;	
Transland	> 0	0.00) t	77.000	2748	462	289	68204
	> (6483	2.94.3	4218	682	0	159	14485
CIVIL AVIECTOD	0	8041	0	0	0	0	131	8172
MAP Aircraft (testing)	0	0	0	14086	0	O	23	14109
Total	0	23852	2943	73681	3430	462	602	104970
East Germany								
Air Force	0	1887	0	0	375	63	38	2363
Hungary								•
Air Force	0	6099	0	29534	1489	c	187	06062
Training	0	2176	2005	C	506	9 9 9 9	3	67010
Civil Aviation	0	2116	0	C	9	3 C	8 8	OT/#
Total	0	10901	2005	29534	1200	000	0.00	ners
Poland	•	1	2	H 0002	901	707	888	44689
Air Force	c	96.98	•			;		
Nows Artication	> 0	60009	> (48/01	2622	609	288	78855
mayar mylacion	> 0) 	o	2953	125	23	ຄ	3104
Springer	Э •	97.09	3540	2109	586	0	160	12471
STATE AVIBITION	o (4233	0	0	0	0	69	4302
MAR Alrerait (testing)	0	0	0	4984	0	0	80	4 992
Total		35914	3540	58777	4333	630	530	103724
Rumania								
Air Force	0	7188	0	25842	1499	252	191	34979
Training	0	1397	1403	0	140	0	45	2985
Civil Aviation	0	3174	0	0	0	0	52	3226
fotal	0	11759	1403	25842	1639	252	288	41183
Total European Satellites	0	102160	11327	209985	14160	2058	2146	341836

S-E-C-R-E

Naval Aviation Training Civil Aviation

Units

Location of

Total Communist China and Asiatic Satellites

Training Total

North Kores

Tota1

Training Total

North Korea

Location of Units

Air Force

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Page 3 of 6 Pages

		ESTIMATED COMMUNIST CHI	ESTIMATED ANNUAL CONSUMPTION OF PETROLEUM PRODUCTS COMMUNIST CHINA AND ASIATIC SATELLITE AIR FORCES - 19	TION OF PETROI SATELLITE AII	FIMATED ANNUAL CONSUMPTION OF PETROLEUM PRODUCTS NIST CHINA AND ASIATIC SATELLITE AIR FORCES - 1952			
	Avi	Aviation Gasoline	ine	21			+ 9 1	Matrice acres
Location of Units	Grade 100	Grade 95	Less than Grade 95	Jet Fuel	Motor Gasoline	Diesel Fuel	Lubricants	Total
China		:						
Air Force	0	33171	0	94931	6370	101	843	136386
Mayal Aviation	0	0	0	0	0	0	2	
Iraing	0,	0	1672	0	83	0	27	1782
Clv1 Aviation	0	3809	9284	0	0	0	213	13306
rotal	0	36980	10956	94931	6453	1071	1083	151474
North Korea								
Alr force Training	00	0	0 (0 (0 (0	0	0
Total	0	0	0		0	00	00	0
								,
Total Communist China and Asiatic Satellites	0	36980	10956	94931	6453	1071	1083	151474

S-E-C-R-E-I

Naval Aviation Training Civil Aviation

Air Force

Tota1

Location of Units

Total Communist China

Training Total

North Korea

Naval Aviation Training Civil Aviation

Air Force

Tota1

Location of Units

Total Communist China and Asiatic Satellites

Training Total

North Korea

Aviation				Table C-3	C-3		Page	Page 6 of 6 Pages	
Marietion Arietion Case than Macro Case Pase			ESTIMATED A	NNUAL CONSUMPS A AND ASIATIC	PION OF PETROI SATELLITE AIR	LEUM PRODUCTS R FORCES - 1955			
Martion Ariation Ariation Ariation Ariation Ariation Loss than Mattrion Diesel Fuel Libricantes Libricante									
Loss than Loss		ΑνΊε		ou.				Met.	ric Tons
11 12 13 15 15 15 15 15 15 15	Location of Units	Grade 100	വ	Less than Grade 95	Jet Fuel	Motor Gasoline		Lubricants	Tota1
Trigition 1999 28773 0 109453 0 1459 11034 0 1450 1450 1450 1450 1450 1450 1450 1	China	i (: :	¢	0.000		121	740	7.000
The control of Section	Alr Force Mercel Aristics	CCST	28773	- -	69495	6745 500	#PTT	9/4 85	572//T
type 0 0 0 0 0 144 22 common value 0 3851 1855 1857 1874 231 132 4 common value 0 1407 268 3163 242 0 32 4 32 4	rayar nyracron Training	00	9505	2876	24257	1832	, 0	241	38711
ce 0 3201 0 36637 1374 23 ce 0 3201 0 36637 1374 23 132 4 ce 0 1407 268 3163 242 0 32 otal 0 4608 268 39800 1616 231 164 dist Chira and tellites 1956 54927 3540 209410 10693 1449 1508 28 146.	Civil Aviation	0	8465	396	0	0	0	144	800
9. 520	Total	1955	50319	3272	169610	9077	1218	1344	23679
1956 54927 268 3163 242 0 32 0 4608 268 39800 1616 231 164 4 1955 54927 3540 209410 10693 1449 1508 28	North Korea	c	4901	Ç	48847	1374	231	132	41575
1955 54927 3540 1616 231 164 4 1955 54927 3540 209410 10693 1449 1508 28 164 4 1855 54927 3540 209410 10693 1449 1508 28 186.	Training	. 0	1407	268	3163	242	0	32	5113
1955 54927 3540 209410 10693 1449 1508 166. 166. 168. 168. 168. 168. 168. 168. 168. 168. 168. 168. 168. 168. 1508	Tota1	0	4608	268	39800	1616	231	164	46687
the. S=B_C_R=B_T	Total Communist China and Asiatic Satellites	1955	54927	3540	209410	10693	1449	1508	283482
te. S. B. C. B. E. E. T. S. B. C. B. E.									
th6. S_B_C_R_B_T					v				
h6. S-B-C-R-B-T									
h6. S-B-C-R-B-T									
h6. S-B-C-R-B-T									
h6. S-B-C-R-B-T									
λt6. SBCR-B-T							V		
S_B_C_R_B_T				₹	• •				
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